

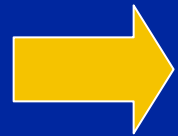
IA-64 Software Programs Overview

Mike Pope

**Director of Enterprise Programs
Intel Architecture Content Group
Intel Corporation**

August 31, 1999

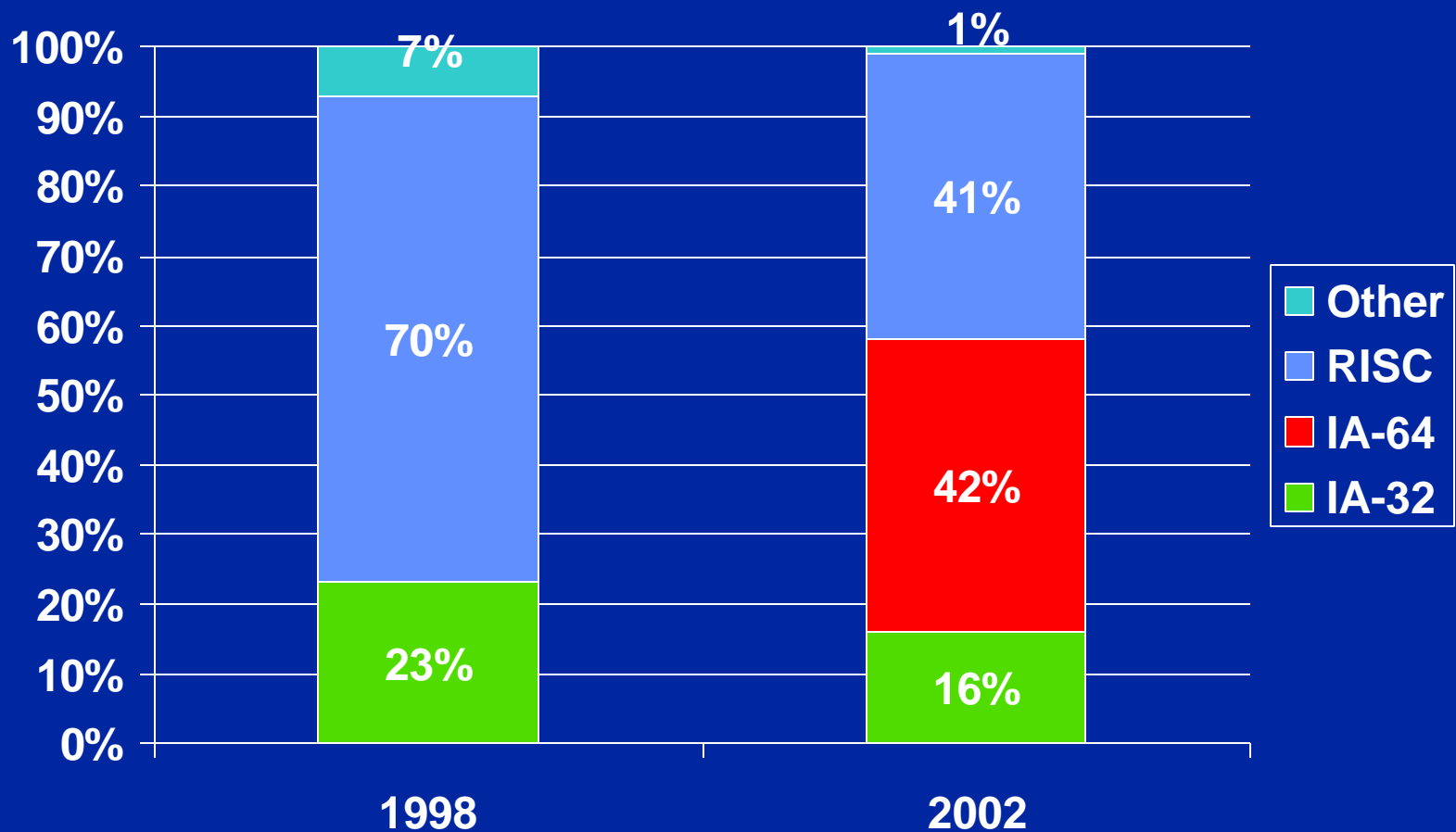
Agenda



- IA-64 Server & Workstation Strategy
- IA-64 Software Programs
- Leading OSVs/ISVs IA-64 Status
- Call to Action

IA-64 Server Opportunity

WW server units >\$25K

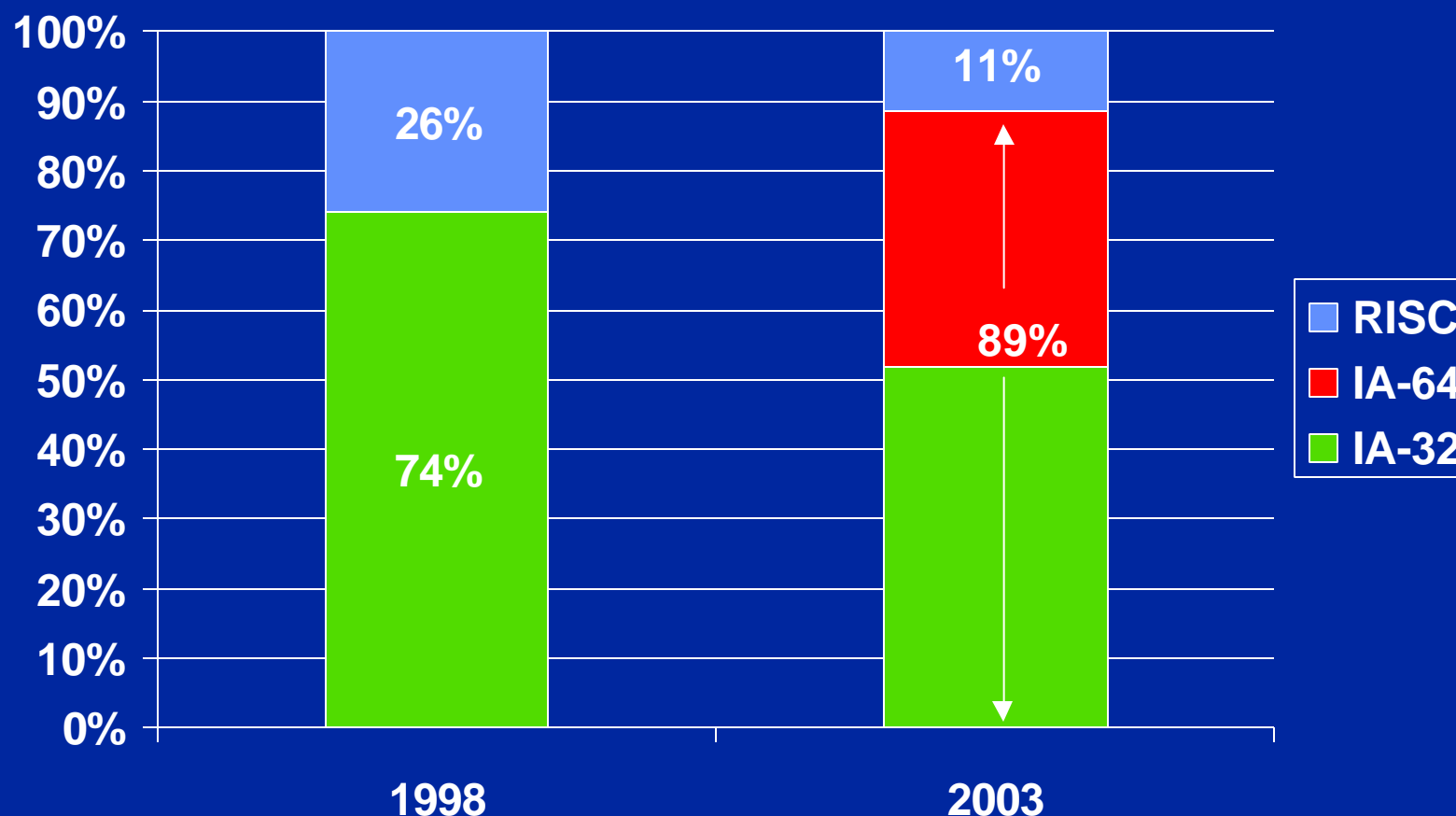


Source: IDC Server Market Review & Forecast 10/98



IA-64 Workstation Opportunity

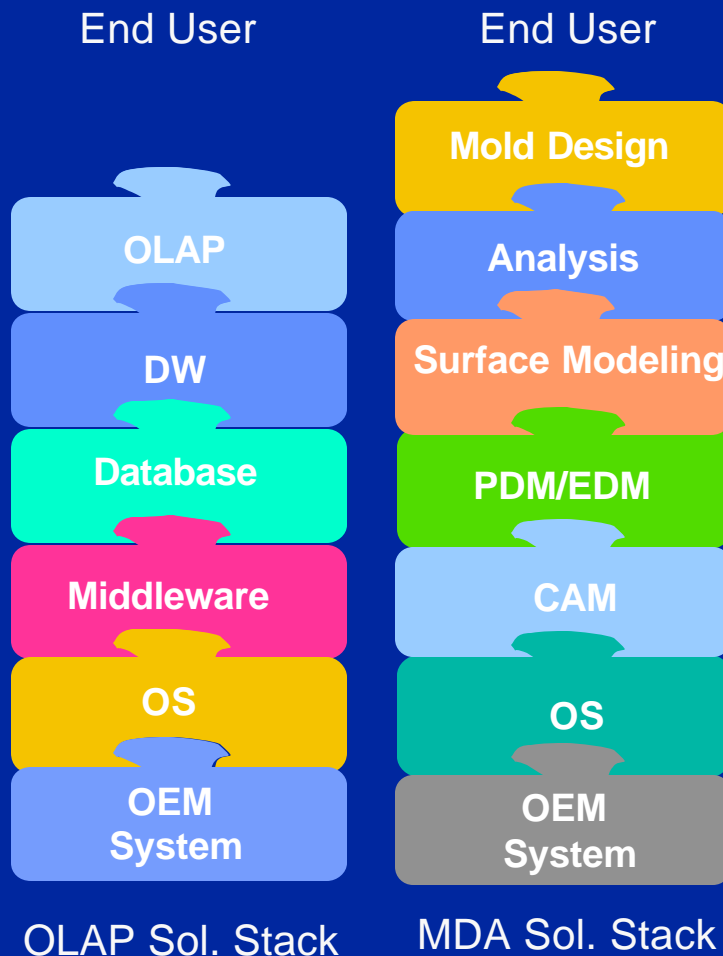
Workstation Market Segment Growth (Units Shipped)



Source: IDC WS Review and Forecast, 1998-2003
& Intel Forecast 1999



Solution Stacks



• Solution Stacks for Itanium™ :

- ◆ Demonstrate IA-64 benefits
- ◆ Offer high volume opportunity
- ◆ Emerging as key segments for e-business solutions

Server Solution Stacks

Business Intelligence

- Data Mining
- Data Visualization
- Data Warehousing
- OLTP

ERP/Extended ERP

- CRM
- Supply Chain Management

E-Commerce

- E-Store front Catalog
- Online Procurement

Telephony/Security

IA-64

Scalability

64-bit Addressing

FP Performance

Performance Headroom



IA-32

Consolidate Messaging

- Messaging/Collaboration

Internet Infrastructure

- Application Server
- Directory Server
- Proxy/Cache Server
- Web Server

Telephony/Security

Workstation Solution Stacks

Digital Content Creation

- Video Editing
- Compositing/Effects
- 3D Animation
- 3D Rendering

E-Business & Finance

- Emerging Services
- Risk Analysis

IA-64

Scalability

64-bit Addressing

FP Performance

Performance Headroom



IA-32

Scientific/Engineering Applications

- Computer Aided Design
- Electronic Design Automation
- Finite Element Analysis
- Fluid Dynamic Solutions

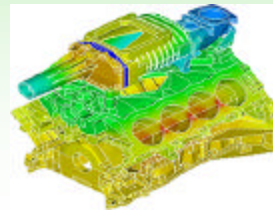
DCC



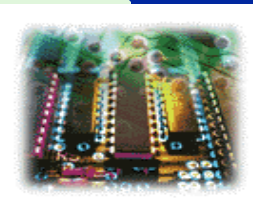
Finance



MDA



EDA



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IA-64 Milestones

● Finish IA-64 Clean Code work

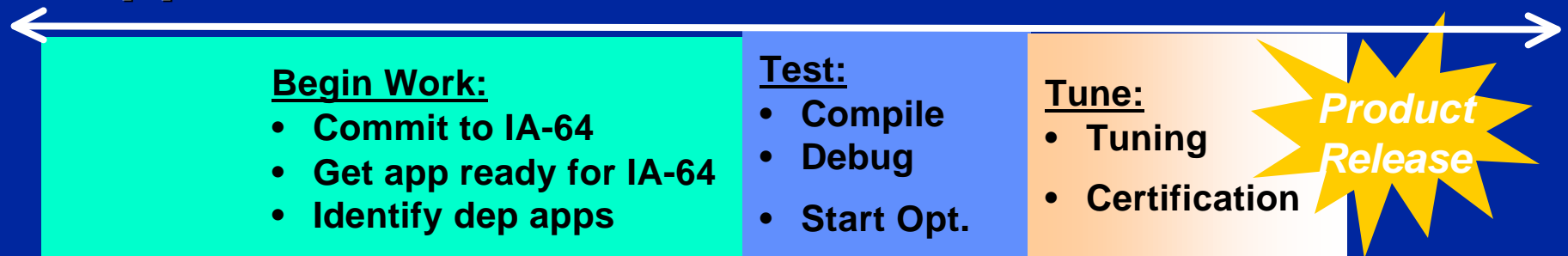
- ◆ Understanding the IA-64 ISA:
<http://developer.intel.com/design/ia64/architecture.htm>
- ◆ Getting Software Ready for IA-64:
<http://developer.intel.com/design/ia64/devinfo.htm>

● Finish recompile & debug

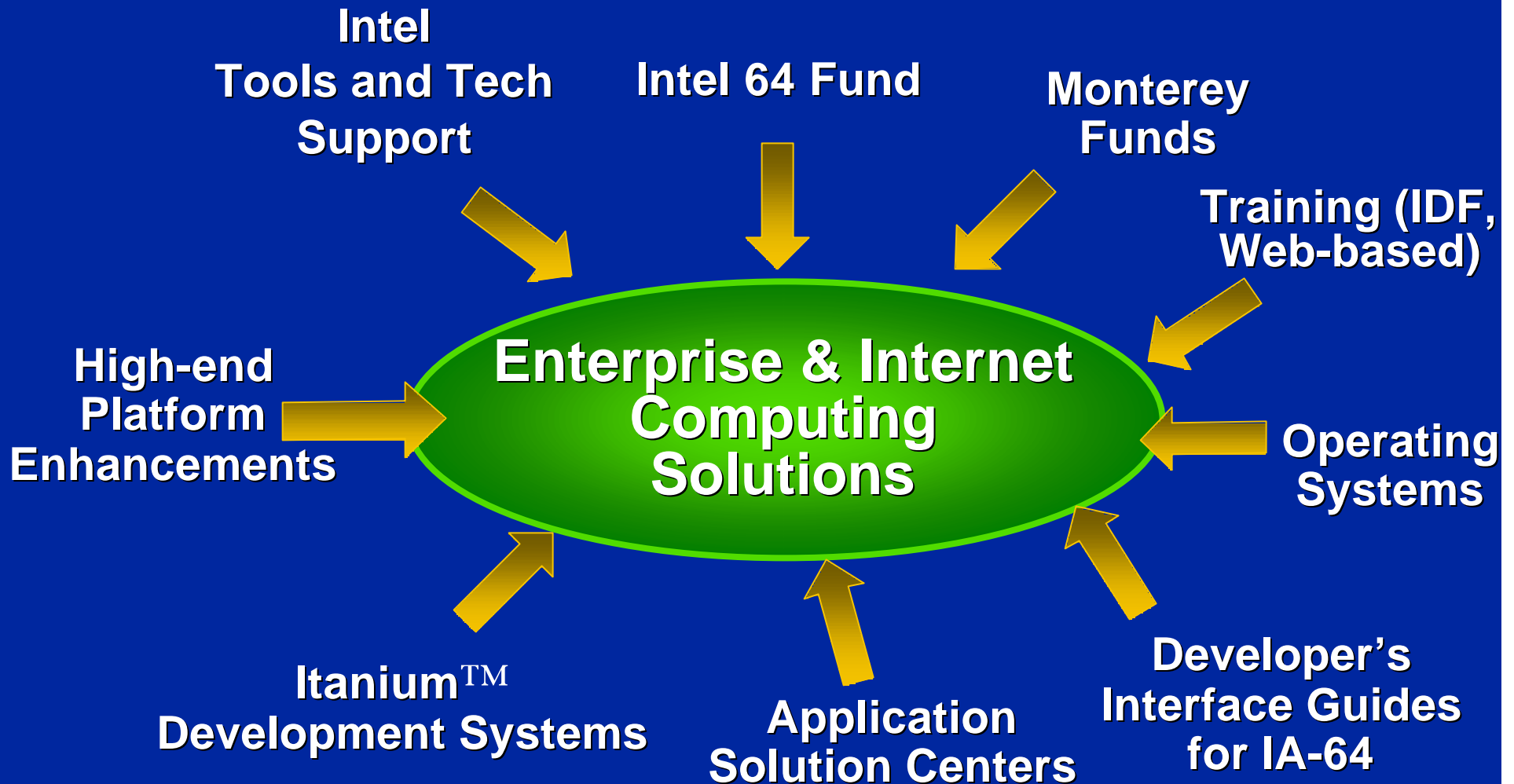
- ◆ Review the Compiler Technology presentation for more information on IA-64 compilers: <http://developer.intel.com/design/ia64/devinfo.htm>

● Application optimization

● Application release



IA-64 Developer Resources



More to Come...



IA-64 Developer Enabling Model

High	Segment Leaders	Direct Support, SDKs, SDVs, ASCs, Direct Training, Marketing Inclusion, Launch Presence, Demo Support, Access to private web site, DIG, IDF
Med	Emerging Companies Dependency Apps	SDKs access, SDVs access, Training, Engineering Support, Intel 64 Fund, Potential Demo Support, Access to private web site, DIG, IDF, ASCs
Low	All Others	Web Site Access, Intel 64 Fund, Limited SDV access, Web-based Training, IDF, Potential presence on Intel web site

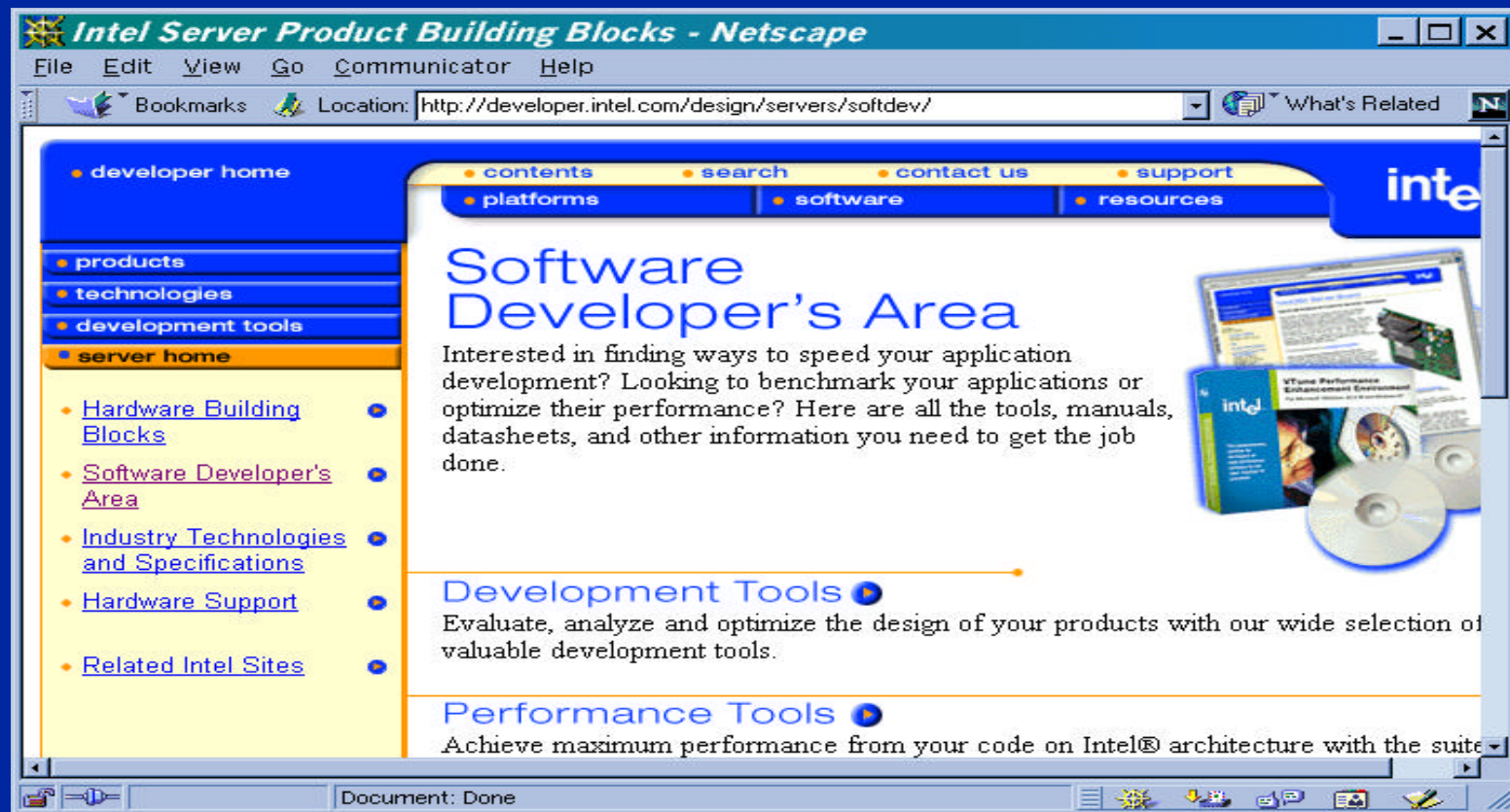
Web-based Developer Information

- IA-64 Home Page
(<http://developer.intel.com/design/IA64/>)
 - ◆ Links to public technical documents, web based training, etc.



Web-based Developer Information

- New software developer site for ISVs
(<http://developer.intel.com/design/servers/softdev/>)



Application Solution Centers

- IA-64 architecture/tools training
- Assistance in porting effort



<http://developer.intel.com/software/asc>

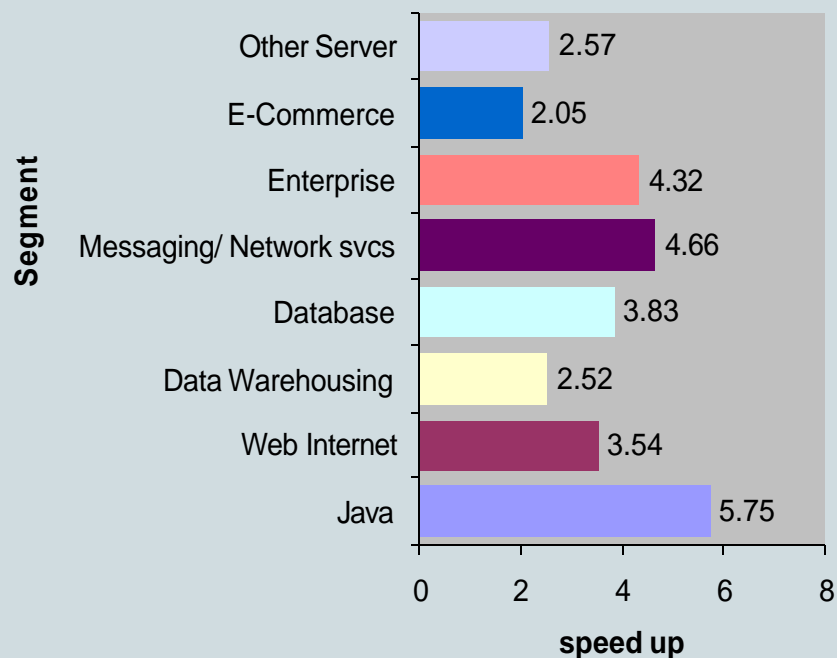


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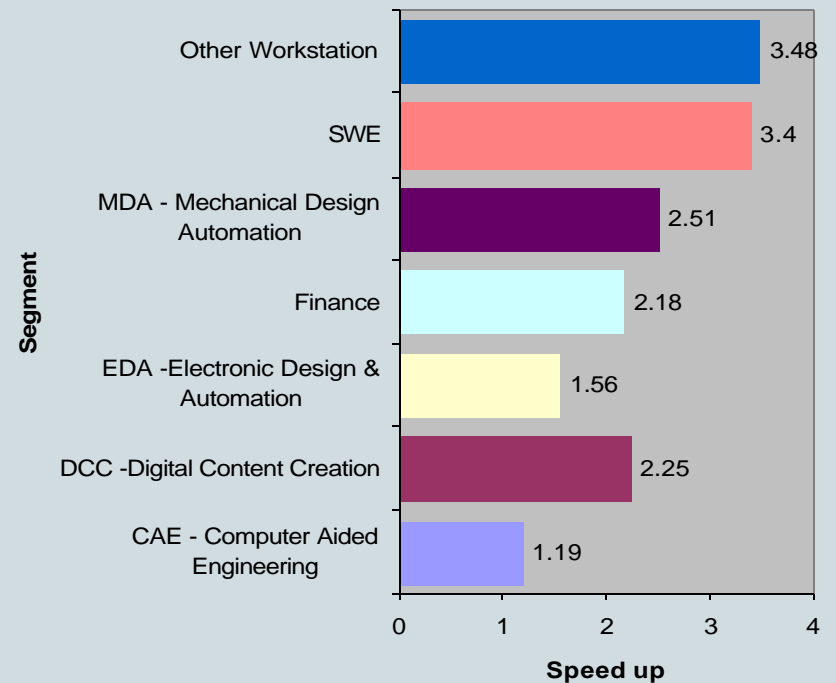
Application Solution Center Speedups

*Data for WW ASCs

Server Segment by Speed up



Workstation Segments by Speed up



**Outstanding performance gains
across all segments**

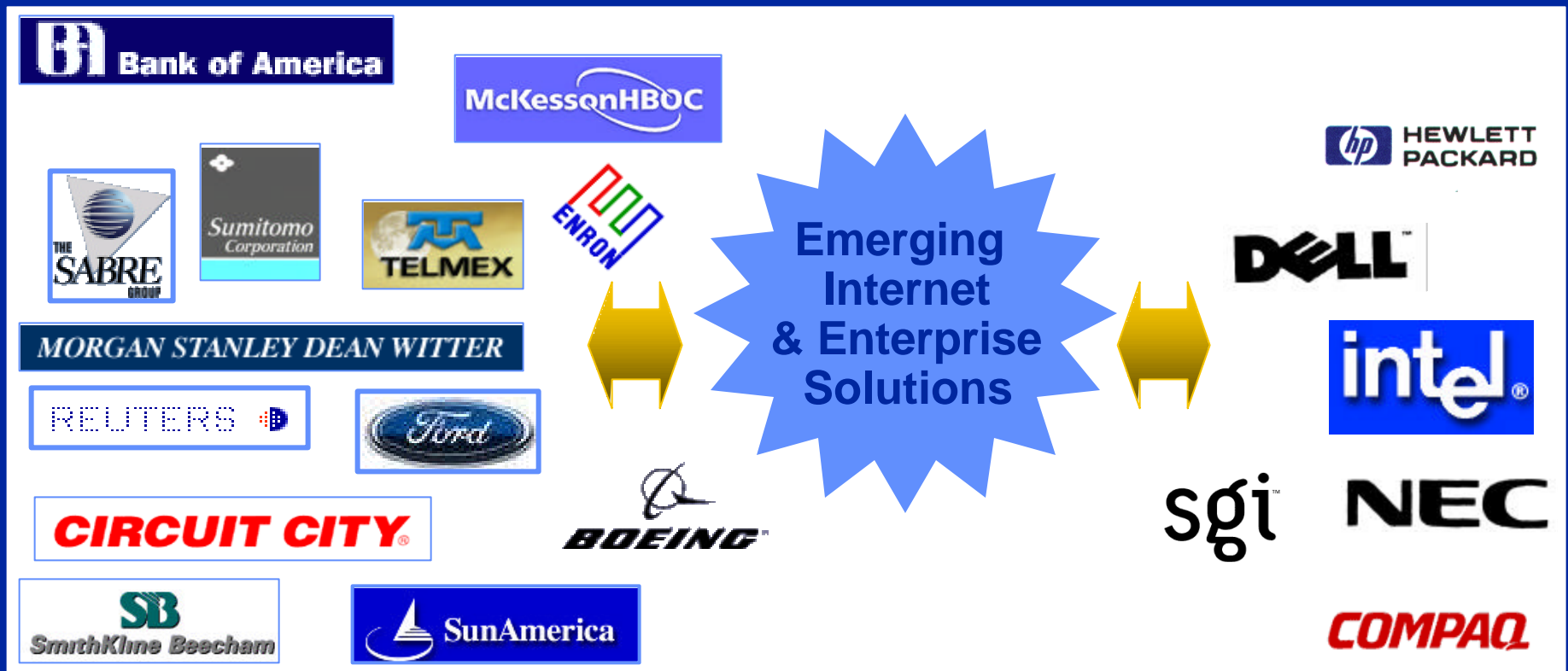


Source: Intel ASC Program, 1999. Data by Segment through June '99



Intel 64 Fund

- A \$250m equity fund formed to accelerate the adoption of IA-64 based high volume server and workstation solutions.



intel®

Intel
Labs

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Early IA-64 Developer Tools

- **Purpose:** Ensure quality tools for first Itanium™ based systems
- **Intel SDK**
 - ◆ For clean code, compiling, linking & initial run-time debugging
- **Intel DDK**
 - ◆ For device driver development & run-time debugging
- **Pre-production Itanium™ based systems**

**We're working with a small
number of vendors to improve
IA-64 developer tools**

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OSV Status



Win64



SCO

Linux



Modesto

Monterey Unix



HP-UX



Solaris

- **Microsoft (Win64)**

- Booting with EFI loader; ACPI HAL is now default
- WOW64 executing simple IA-32 instructions
- Public Demo at WinHec

- **IBM/SCO (Monterey64)**

- Multi-user OS booting on Simulator
- Key device drivers ported (Kbd, Mouse, Video, Disk, NIC)

- **IA-64 Linux**

- Trillian team formed to port Linux to IA-64 (VA Linux, IBM, Intel, HP, SGI, Cygnus)
- IA-64 Linux booted and Apache web server running on Simulator

- **Novell (Modesto)**

- OS booting, NetFire JVM & Proxy Cache server executing on Simulator
- Public demos at BrainShare (US/Europe)
- EPC providing tools/compiler

- **Hewlett Packard (HP-UX)**

- Multi-user boot on Simulator
- Key device drivers ported (Kbd, Mouse, Video, Disk, NIC)
- Several applications running on Simulator

- **Sun (Solaris)**

- Multi-user OS booting on Simulator
- Key device drivers ported (Kbd, Mouse, Video, Disk, NIC)

OSVs on track for Itanium™!



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IA-64 Server ISV Status

Segment	ISV Commit	Eng. Team in place	Eng. Team trained	Clean Code	Debug & Compile	Validation & Certification
Business Intelligence						
E-Commerce						
E-Biz Infrastructure						
Consolidated Messaging						
E-ERP						
Telephony						

Leading ISVs on track to complete
“Clean Code” by Q4



IA-64 Workstation ISV Status

Segment	ISV Commit	Engr. team in place	Engr. team trained	Code Clean	Debug & Compile	Validation & Certification
MDA						
DCC						
EDA						
Finance						
Other						

**Leading ISVs on track to complete
“Clean Code” by Q4**



Partial List of ISVs on the Itanium™ Simulator

● Server ISVs

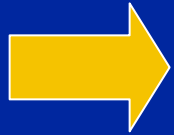
- ◆ Apache
- ◆ Microsoft
- ◆ Novell
- ◆ Oracle
- ◆ SAP
- ◆ SAS Institute, Inc.

● Workstation ISVs

- ◆ MSC
- ◆ Mental Ray
- ◆ Kinetix
- ◆ Mentor Graphics

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Call-to-Action

- **Get your software ready for IA-64 (i.e. “Code Cleaning”)**
 - ◆ Use existing IA-64 developer resources
- **Identify dependency applications**

